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SEPTEMBER 23, 1983

Chilton's

IRON AGE

THE MAGAZINE FOR METALWORKING MANAGEMENT

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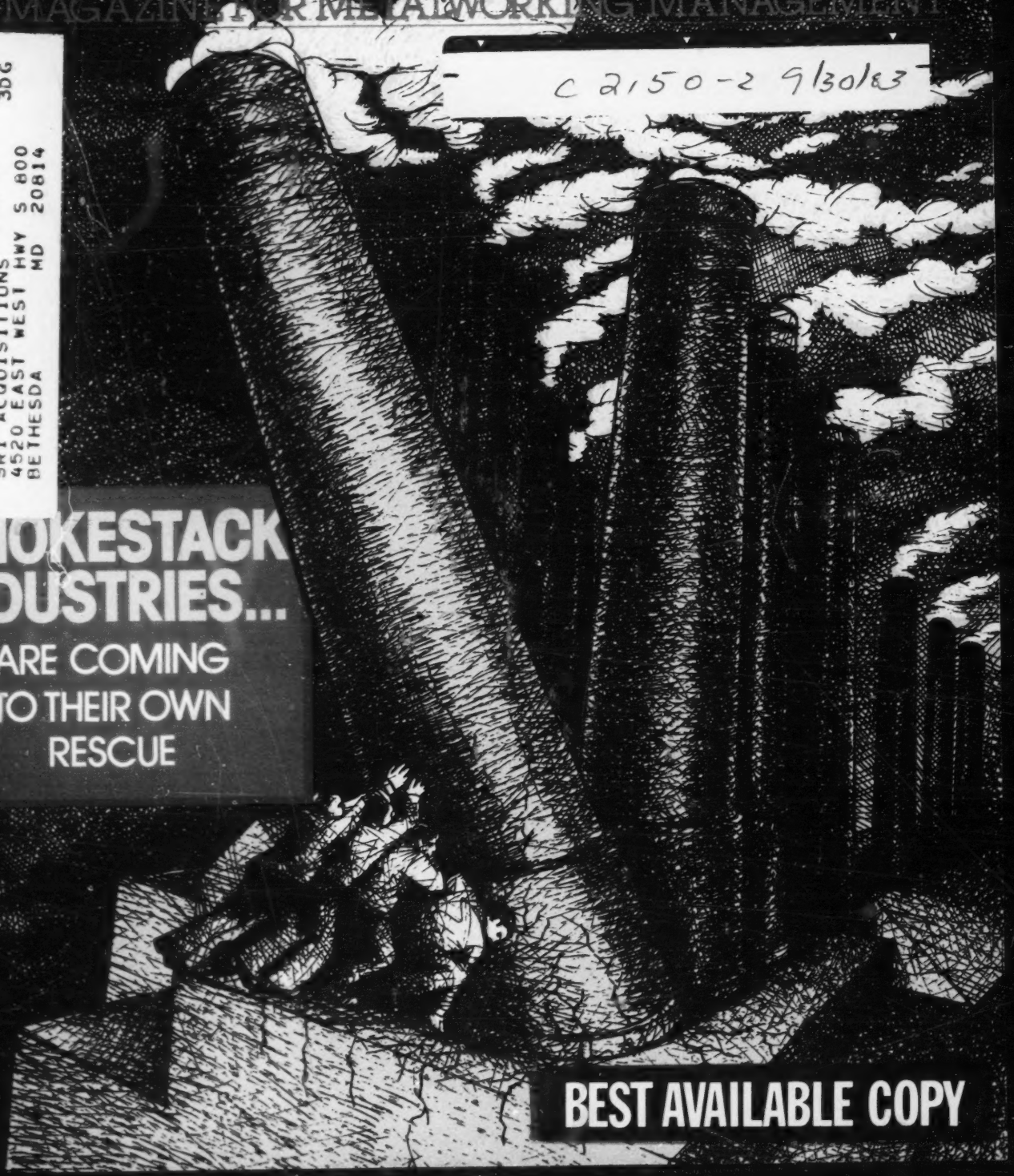
SMOKESTACK INDUSTRIES...

ARE COMING TO THEIR OWN RESCUE



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IRON AGE

SEPTEMBER 23, 1983

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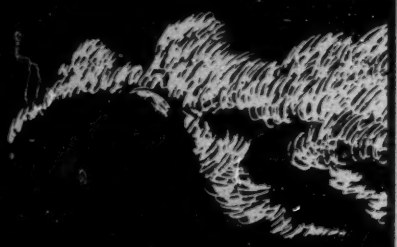
IRON AGE (ISSN 0164-5137) is published 24 times a year by CHILTON COMPANY, Chilton Way, Radnor, PA 19089, appearing on the first Monday and third Friday each month. Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, PA 19087 and additional mailing offices. IRON AGE is sent on a controlled free basis to qualified managers in U.S. metalworking companies. Non-metalworking companies, services, government, institutions, schools and colleges, $42 one year. Canada, $42 year. Foreign, $49 one year. Single copies, $2.50. Cable Chilton, Philadelphia.
Send address changes to IRON AGE, P.O. Box 1440, Riverton, N.J. 08077



SMOKESTACK INDUSTRIES...

ARE COMING TO THEIR OWN RESCUE

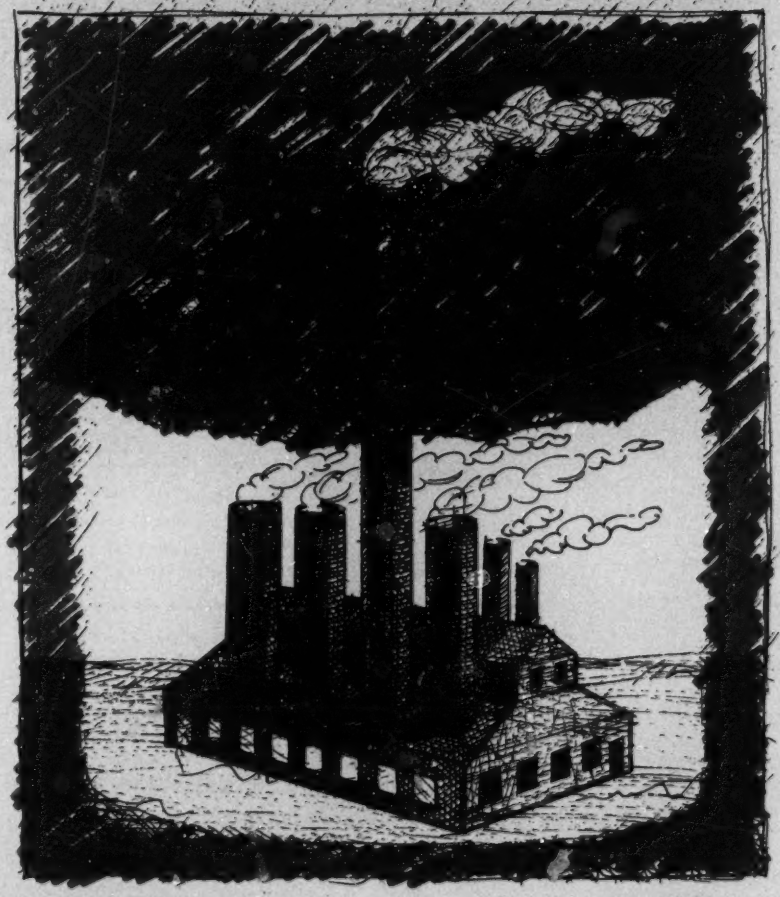
The debate on reviving Smokestack America centers on what the government should not do, and what basic industries must do for themselves.

Some people have all but carted U.S. smokestack industries off to the cemetery.

Their vision of tomorrow is a U.S. economy propelled onward and upward by high-tech industries and services.

Cooler heads are saying, 'Hold it!'

Many call for an 'umbrella' industrial policy to aid basic goods manufacturers.



They are saying that reports of the demise of smokestack industries are greatly exaggerated. They point to active industries making and selling hundreds of billions of dollars worth of basic goods and employing about 8 million Americans.

In short, the 'reindustrialization' debate roars on in this country. And, at the eye of the debate storm is the question of ailing U.S. smokestack industries

The cooler heads seemingly have redefined, or shifted, the debate on the issue of America's smokestack, or basic, industries.

Increasingly, the issue is no longer a matter of being 'for' or 'against' the need for these industries; it is now more on 'we need basic industries, so how do we make them strong?'

This reality on the need for smokestack industries has been increasingly accepted. For one, it is widely agreed these industries are needed for reasons of national security. If all the products of basic industries are taken away from the U.S. military arm, the Pentagon wouldn't have much of a war machine to run.

Too, there is the increasingly accepted need for basic industries in making up a balanced U.S. economy. An economy as large and as complex as that of the U.S. simply can't write off its basic industries and expect to survive as a major industrial power.

Not to be overlooked, even by the most zealous high-tech advocate, is another point: How can there be a healthy high-tech industry in this country unless its No. 1 customer--basic industries--is also healthy?

Notes one economist actively engaged in the debate on smokestack industries, "It's not that we don't need these industries. What we don't need, and can't afford, is sick smokestack industries. So, turn the coin, and it is seen that what we very much need in this country is strong basic industries."

How to get them strong again is now really the issue. Some look to industrial policy--a comprehensive policy marked by heavy government intervention into the private sector. At the other end of the debate spectrum, some want the government to stay out of the way, and to simply clear the way for business to help itself.

Any policy to deal with the problem of smokestack industries must be based on their actual state of health or sickness, and in knowing how they got that way.

This *Iron Age* report looks at these points and at what government policies might likely be effective.

First off, it has to be clear just what industries are covered by the label 'smokestack.'

'Smokestack' industries is a term, a label, probably concocted long ago by some business speechwriter or reporter. Everybody seems to have their own idea of what industries come under the sweeping label.

This report views smokestack industries simply as mature manufacturing industries that make basic, or at least traditional, products. In this context, the terms 'smokestack' and 'basic' are interchangeable.

Actually, it is easier to name indus-

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tries that fit the bill rather than to try to define the term.

Certainly, metals producing industries rate the term. This is a mature industry group and its products could not be more basic.

Transportation equipment manufacturers are smokestackers. This includes autos, trucks, buses, rail cars and even commercial aircraft.

Companies that make heavy industrial goods such as business capital equipment and machinery are included in the smokestack, or basic, category. Also, textiles, rubber and many lines of commodity chemicals are included. (This report does not cover these latter industries).

How hard have these U.S. smokestack industries been hit?

There is no getting around it, they have been hit hard.

A radical shrinkage in the workforce of some U.S. basic industries is one measure of how bad they have been hit.

In 1957, the steel industry in this country hit a peak in its employment rolls. It employed 952,000 workers. In 1982, the industry had 653,000 workers on its payrolls, some 31 pct less than in 1957.

The auto industry held on to its workers a bit longer. In 1978, it employed more than 1 million workers. In 1982, this workforce was down to 716,000 employees, a 30 pct drop.

Probably, the most telling story on downsizing of manufacturing in this country—led by basic industries—is seen in just one figure: In 1960, there were 12.6 million production employees at work in U.S. manufacturing. In June of 1983, there were 12.6 million production workers on the job in U.S. factories. Net gain: Zero!

Over the years, employment in an industry doesn't fall, or remain stagnate, unless orders and shipments and other measures of business health are failing. And that holds true for U.S. basic manufacturing industries.

For example, steel shipments peaked at more than 111 million tons in 1973; last year, they came to about 61 million tons. Retail sales of U.S.-made autos peaked at 9.7 million units in 1973; last year they totaled 6.2 million units. Machine tool orders in 1979 totaled $5.5 billion; at an annual rate this year based on first half performance, orders will likely be around $1.5 to $2.0 billion.

The list could go on. The story on sliding business volume extends from steel down to basic manufacturers making bearings, valves, nuts and bolts and so on. Too, the loss of jobs has been "across the board."

These figures are measures taken during a deep recession. But few economists, or even few executives in basic industries, can be found who say that old peaks will be matched or exceeded in the present recovery.

As a matter of fact, the steel industry is not even thinking in terms of matching old peaks of output. It is reducing capacity—some 15 pct, so far—and following a strategy of 'smaller and leaner is better.' The auto industry, too, is shaking down. The shrinkage strategy is apparent in other basic goods lines.

Loss of workers is one thing. But lower output per remaining worker is another. And that is what has happened in basic industries, and all manufacturing, in this country.

Worker productivity in the industry between 1976 and 1982 fell by 9 pct. In primary aluminum, it fell by 4 pct.

In the machine tool industry, labor productivity between the same years fell by 11 pct; in farm machinery—another basic industry—it fell by 4 pct.

In the auto industry, productivity was up 7 pct over the measured years—an annual rise rate of just slightly more than 1 pct.

Did this hurt U.S. basic industries in their efforts to hold their place in the international sun? Well, in a comparison of manufacturing labor productivity for the years 1970-80, U.S. industry tied for last place (with the U.K.) in a list of the world's top 11 industrial nations. The U.S. average annual growth in labor productivity over the years was 2.6 pct. The annual increase rate for other nation's manufacturing industries ranged from 7.2 pct for Japan to 3.7 pct for Sweden.

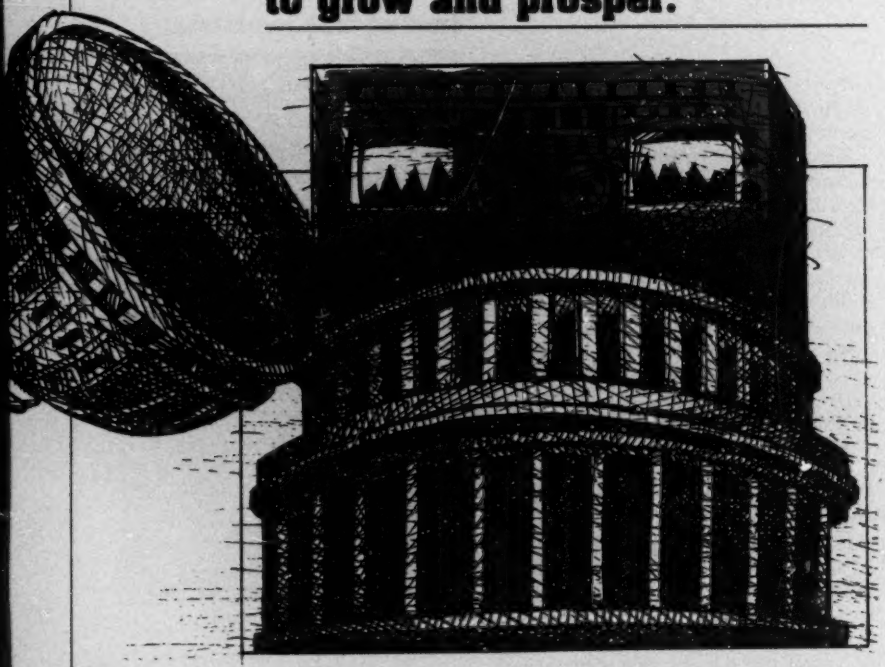
Worse, productivity of workers in U.S. manufacturing—and especially basic industry—has been poor, but **not** worker earnings.

Through the past decade, average labor costs in manufacturing have gone

Slower and more volatile economic growth hurts cyclically—sensitive smokestack industries

Pct of Years with Negative Growth

U.S. must give every chance for high-technology industries to grow and prosper.



up about 7 pct per year. Again, the upside leader was basic manufacturing.

At the end of last year, the average hourly earnings of production workers in basic industries came to $9.96 (not including benefits). This was 15 pct higher than for all U.S. manufacturing and almost incomparably higher than wages in service industries.

In sum, while U.S. basic industries have been shrinking in size and slumping in business volume, its worker productivity has been plummeting and its labor costs have been rising.

Where it all comes out in the wash, is in foreign invasions of the home markets of U.S. basic manufacturers. Imports have been flogging the weakened body of this country's smokestack industries. One analyst calls the import flood, "the crown of thorns" for these industries.

In the 1973-81 period, the value of steel imports into this country grew by a compound annual rate of growth of 18 pct. The flood averaged 22 pct for primary nonferrous metals, 25 pct for construction machinery, 15 pct for motor vehicles and 13 pct for farm machinery.

Imports in any one year have grabbed off 25 pct of domestic steel markets and 27 pct of auto markets.

Again, one telling figure can tell much of the story: In 1982, U.S. imports of machine tools accounted for 44 pct of all machine tool units sold in this country.

Industries hard-pressed by imports are hardly in a position to boost their exports. That's been true for U.S. basic manufacturers. The U.S. share of world exports fell from 13.7 pct in 1970 to 10.8 pct in 1980.

This U.S. world export share decline was led by basic manufacturers. Steel went from 9.2 pct to 5.0 pct. Machine tools from 18.1 pct to 11.7 pct. Electrical machinery fell from 19 pct to 10 pct.

To top off this litany of setbacks, is the fact that U.S. basic industries haven't been able to generate the earnings, and to raise the capital needed to modernize their plants and thus fight their way out of their besieged trenches.

Notes D. Bruce Merrifield, U.S. Commerce Dept. Assistant Secretary for Technology, Productivity & Innovation, "Smokestack America is in very serious trouble. Many companies aren't getting anywhere near a 15 pct return on equity. Many are in the 5 pct to 10 pct range, or even lower. They are liquidating their companies at a very significant rate.

"The auto and steel industries, in particular, are eroding their assets at a very rapid and alarming rate."

If a turning point in all the troubles of basic manufacturers could be foreseen, then the burden of problems might be more bearable.

Here's the way Preston Martin, vice chairman of the Federal Reserve Board puts it:

"There is a structural adjustment that every one of the western nations has to go through. That is the surrender of the old mentality that we in the United States, France, UK, Germany, Japan or whatever it is, are the greatest manufacturing assemblers, best engineers in the world in producing all those automobiles and steel and so forth.

"I think that each of these countries is going to find that those classic industries of the 1950's are going to shrink. The South Koreans of the world are going to do that for us, do that with great enthusiasm and with new plants and robotics and all the rest. It's a very difficult adjustment for us to make."

So, it looks like the troubles of America's basic, or smokestack, industries are for real. They are in trouble.

In sum, the troubled scenario for America's basic industries has been one of high labor costs coupled with slow-growth productivity. This, and a protracted slow-growth economy put a serious crimp in earnings, which, in turn, led to a deferral of badly-needed plant modernization.

And all that opened the floodgates to imports.

There are, of course, other events, trends and forces that have hit smokestack industries. Government regulations, ranging from environmental control to antitrust, have hurt. Tax policies, especially in the area of depreciation of capital assets, have served as much as disincentives to investment and growth as they have incentives. And basic industries, big users of energy, were set back hard by the quadrupling of oil prices in 1973—the effect of which continues through the present.

And, of course, there have been charges of management laxity in basic industries. These charges center on softness in dealing with union wage demands and with not keeping up technologically. But these are largely subjec-

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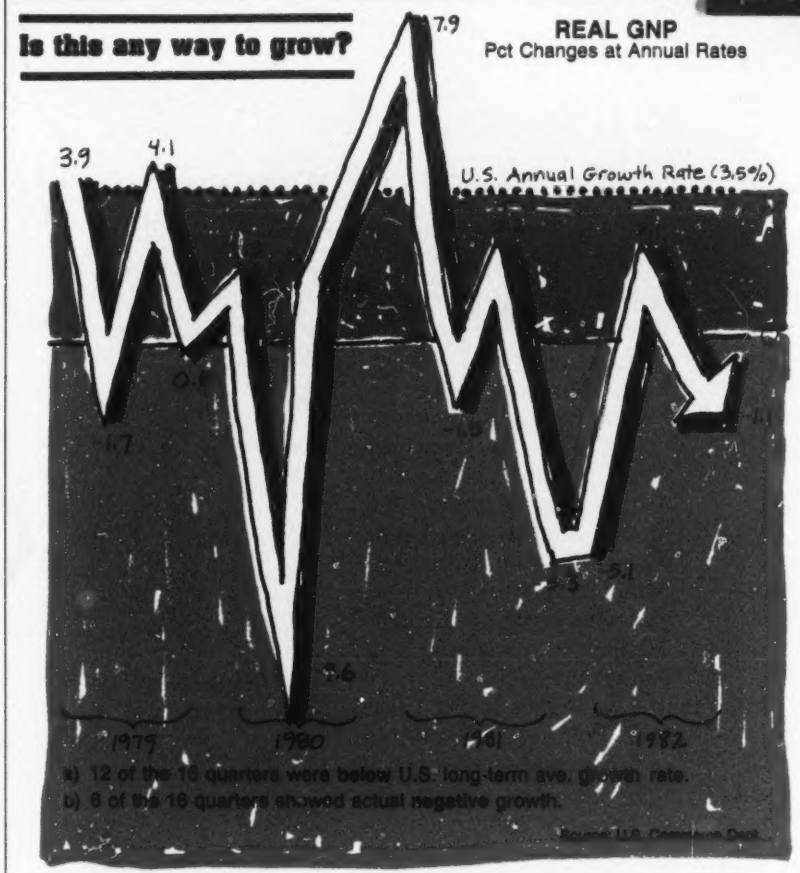

tive criticisms, often difficult, or even impossible, to document. Certainly, the magnitude of the problems faced by management, and the resources at its disposal to resolve the problems, should be fully considered.

So now, what are prospects for basic industries? What government policies are needed to help? What can the industries do themselves?

When experts talk or write about the prospects for smokestack industries in this country, two points seem always to emerge: Slow and volatile U.S. economic growth, and the continuing flood of imports.

To these points is where action must be directed, they say, or the problems of basic industries almost certainly will worsen.

There are good reasons for relating these problems to basic industries. Basic manufacturers are uniquely vulnerable to the kind of economic happenings that have marked the past 10 to 15 years in this country. And too, for very special reasons that will be seen, the import problem has knocked the smokestackers hard as it only tapped others.

First, a look at the badly working U.S. economy of recent years.

In terms of economic growth, a glaring spotlight has been cast on the last 4 years in this country—1979 through 1982. In those years, average annual real economic growth came out to abysmal 0.7 pct. That compares with a U.S. postwar average growth rate of 3.5 pct.

But the basic industries in this country didn't pick up their maladies in just the last 4 years. These were just the years when every ache and pain of Smokestack America suddenly seemed to worsen.

The "new U.S. slow growth economic era," as one economist calls it, can be traced back to 1969. The economy, in the following *14-year period* through 1982, grew at a below-par average annual rate of 2.4 pct.

The last 4 years have been just the tail of this deadly game of economic crack-the-whip.

Basic industries are mature industries. They grow at a slower rate than do most others. So, when the economy is sluggish over a protracted period, as has been true since 1969, these slowgrowers are set up like the number ten pin. They can't slow much without getting bowled over altogether.

Too, these industries are known to be cycle-sensitive. This means their business cycle roller coaster ride goes higher and falls further than does the overall economy—and most other businesses.

This is because their products tend to be high-tag goods, and the purchase of them by customers are often deferrable—at least through a business down cycle.

Also, basic industries, for the most part, operate on a mass-production, or large-scale production, basis. This means that cyclical down swings leave them facing continuing huge overhead costs.

And, of course, basic industries are the last to catch hold of cyclical up swings. They are at the tail end of the buying process that in a recovery starts with retail consumers and finally winds its way to them. Short recovery periods can be deadly to basic industries.

This cycle-sensitive phenomena can be illustrated simply through the tie-in of plant and equipment investment and the overall economy. The fortunes of basic industries, either directly or indirectly, are very closely tied to plant investment.

In 1973, when the U.S. economy grew at a 5.8 pct clip, plant investment rose by a whopping 14.4 pct. In 1975, when the economy dipped by 1.2 pct, investment slumped by 12.1 pct.

So, what has been the look of the business cycle in recent years in terms of volatility--that enemy of cyclical-sensitive basic industries?

In a word—wild!

The last recovery cycle in 1980-81 was the shortest (12 months) in 50 years; the last recession in 1981-82, was the longest (16 months) in 60 years.

One top economist stamps the label, The Widening Cycle, on the last decade. His point is well taken. For example, in the 1948-69 period, some 9 pct of the years had negative growth. In the 1970-82 period, a staggering 38 pct of the years were negative.

"That," says a basic industry executive, "is enough to give almost any company a bad case of economic whiplash."

There is another way that bizarre behavior of the economy has hurt basic industries in recent years. These industries are capital-intensive.

This means that money is the grease that makes their wheels roll smoothly. They are big-scale industries—they carry big inventories. Their equipment

Critical Question:
Is protection against imports needed?

is costly to buy, costly to run. Their huge plants carry a big overhead burden.

And in recent years, the U.S. economy has been bedeviled as never before by soaring inflation and sky-high borrowing costs. Superimpose these facts on a sluggish, bumpy economy that kept basic industries from generating and retaining decent earnings, and the recipe for disaster is apparent enough.

This great squeeze, while in action for many years, was epitomized by the showing in the 1979-82 period. In that time, while the economy grew at a super-sluggish 0.7 pct per year average rate, and when basic industries needed to borrow, the prime lending rate averaged a stratospheric 15.5 pct. These rates were a direct reflection of runaway inflation rates. And inflation could be another whole chapter in the Book of Disaster on Smokestack Industries.

So, the very poor showing of the U.S. economy since 1969—and particularly the 1979-82 crunch years—has hurt basic industries in very special ways. It is not the single cause of the problem of Smokestack America, but it points clearly to being a major one.

The other key cause of the present plight of basic industries is found in the flood of imports. This again, is a problem affecting most all of U.S. industry, but it has hit the basic ones with a special fury.

In the hectic economic period of the late 60's to the early 80's, imports of goods into the U.S. increased 10-fold. During the same time, the U.S. economy grew by only 3-fold. And, as noted, it was imports of basic industry products that spearheaded, and are spearheading, this invasion.

This country has lived long with the import problem and the reasons are clear enough why imports are pouring across the U.S. borders.

Marketplace U.S.A. is the world's biggest and richest single market. It is easy to enter; there are few rules posted on its doors. And foreign industries, often with state of the art products, and almost always with big helping hands from their governments, have moved in in droves.

And, of course, relatively very high U.S. labor costs and slower worker productivity growth, have opened doors wide to imports.

If there has been a bittersweet topping on all this, it has been the recent strong dollar which, in effect, lowers the price of imports.

In all this import invasion, it has been U.S. basic industries that have taken it on the chin harder than most other industries, for several reasons.

Overseas, basic industries were the first rebuilt after the war. This was a needed priority for countries to meet domestic needs at the time. As a consequence, these industries were built up and into importing long before other industries. And, very naturally, their top import target was the big, rich home markets of U.S. basic industries.

Another point. Just about every developed—and even many developing countries—has a steel industry. It is a matter of national pride. So, there have been plenty of countries lined up ready to market steel in this country—and, as often followed, ready to market products made of this basic commodity.

Too, the extraordinarily high labor costs of U.S. basic industries opened those industries wide to imports. It was a special invitation. These costs were—and are—higher than in any other industry and this import vulnerability of basic manufacturers in this country remains.

For example, the average hourly earnings of workers in the U.S. auto industry in 1982 were over $19. This compares to W. Germany's $13 and Japan's $7-plus. In steel, U.S. workers earned about $23 an hour; in W. Germany, $11.50, and in Japan, a bit over $10.

In sum, the causes and problems that have seriously damaged basic industries in this country are clear enough. At this point in time, there appears to be two basic, underlying--and continuing--causes that must be dealt with through national policy and action.

One basic problem is the seeming continuance of years of sluggish U.S. economic growth--years marked at the same time by one wild cyclical swing after another. The other basic problem is imports, which have now created a trade deficit so monstrous that it distorts the entire U.S. economy.

The current economic recovery does not appear to be a solution in process. Says a spokesman for the National Assn. of Manufacturers (NAM): "Even with the recovery now underway, our fundamental economic problems will not go away."

Alexander B. Trowbridge, NAM president, has noted, "The long-term

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Sluggish, bumpy growth hits plant spending—a key market of basic industries

deterioration of American industry that began in the mid-1970's, and has continued through several administrations and Congresses, has *still* not been satisfactorily addressed."

Many—not including the NAM—look for the answer to the problem economy, and to ailing smokestack industries, in industrial policy (IP). This is something that is both vogue and vague. Economist F. Gerard Adams of the University of Pennsylvania's Wharton School describes IP as a "comprehensive and coherent attack on the problems of American industry. It is policies intended to improve industrial productivity and competitiveness..."

An 'umbrella' policy, it includes easing of antitrust regulations to allow industry-strengthening mergers, cooperative R&D efforts and consortiums to help fight foreign competition. It includes special government help for 'sunset' industries and growth-boosting help for 'sunrise' industries. Also usually included are government incentives to boost productivity and to expand exports.

In a sense, IP as popularly envisioned, brings together all the ad hoc moves the government has taken in recent years, adds a few more, and constructs a single industrial policy out of the melange.

Most economists and business executives don't buy the idea of the IP. It smacks mightily of heavy-handed government intervention. Some even see in IP, the emergence of national planning, that old anathema of most Americans. Business executives, especially, don't like the idea of the government picking industry winners and losers.

The whole idea of 'sunrise vs. sunset' industries seems to be losing ground. The 'versus' is increasingly viewed as being meaningless; each needs the other.

Says U.S. Steel Corp. chairman David M. Roderick, "High-technology and basic industries are not competitors, they are compatible because basic industry needs better technology."

Economist Stephen S. Cohen of the University of California, writing recently in the *New York Times*, went further. "Unless American manufacturers—principally those classified as 'sunset'—adopt the new technologies, they will not remain competitive," he noted. "Unless they remain competitive, the high-technology industries will not attain their growth or promise. The workable strategy is to bring high-technology into the production of traditional products."

There's another big objection to IP. It hasn't worked well in a number of countries where it has been tried, including Great Britain and France.

But the key objection to IP is that it can't do anything directly about what appears to be the leading cause of the "deterioration of American industry," to use the words of NAM's Mr. Trowbridge. That is, IP would not be able to get the U.S. economy back onto a growth path marked by less wild cyclical swings. The very best IP will get nowhere if that growth doesn't happen.

What seems to be needed is coordinated fiscal and monetary policies designed to achieve sound economic growth. It is little wonder that the economy—and particularly basic industries—took it on the chin during the last few years.

Often, while the Federal Reserve Board pulled one way with money policy, the Administration pulled the other way with tax policy. On top of that, in less than a two-year period, came the biggest tax cut in U.S. history followed by the biggest tax hike.

The call for coordinated monetary and fiscal policies has been sounded, among others, by economist David B. Yoffie of Harvard. He contends that IP would be "counterproductive for America." But he adds that this does not imply that basic industries are doomed.

"On the contrary," says professor Yoffie, "given the opportunity, many firms in basic industries could thrive. The role of the government should be to provide that opportunity. Coordinated monetary and fiscal policies...could do much more for America's basic industries than the best industrial policy."

What about that other key cause underlying basic industries' problems—imports?

Here, there does seem good reason for the government to jump into the fray.

"I maintain that we need government off our backs at home and by our side abroad," says Bernard J. O'Keefe, chairman of the NAM and chairman of EG&G, Inc. It is said that many 'amens' were sounded by business executives to that succinct comment.

The import problem relates very closely, of course, with the overall eco-

nomic instability of recent years. In commenting on the "instability and uncertainty that has marked the economic environment over the past 10 years," economist Michael J. Piore of MIT, said recently that it has been "largely attributable to the increasing internationalization of markets and the absence of institutions capable of stabilizing the world economy."

Certainly, setting up such institutions is the work of government—U.S. and others—not that of private industry.

It appears that this country's options to deal with the import problem boil down to basic ones. It can build walls, or it can build bridges.

Walls entail levying of higher tariffs, import quotas and other legal barriers to entry of goods into this country. Such policies would be set unilaterally.

Bridges would involve meetings with other countries to settle matters, make arrangements and otherwise arrive at mutually satisfactory agreement on buying and selling each other's goods.

This latter approach would call for strengthening of existing international institutions to facilitate such matters, or even setting up new such institutions.

The 'walls' approach would be straight-out protectionism. In the 'global village' concept in which most economists today view world trade, the 'walls' approach may not be possible much longer. It has served a useful purpose in some cases, but it does risk counterattack by trade competitors.

The recent, 'self-imposed' Japanese quotas on auto exports to the U.S. is an example of where no legal entry barriers were set up. Clearly, to the U.S. auto industry it is valuable knowledge that there will be 1.68 million Japanese-made cars on an annual basis that will enter this country until March of next year.

"International trade is no longer an option for American business—it is a necessity," says NAM executive vice president Forrest I Rettgers. "Without noticing it, we have evolved in the past quarter-century from being a nation that was essentially self-sufficient economically to one that is increasingly de-

Progress has been made in deregulation, but red-tape bind must be loosened more.

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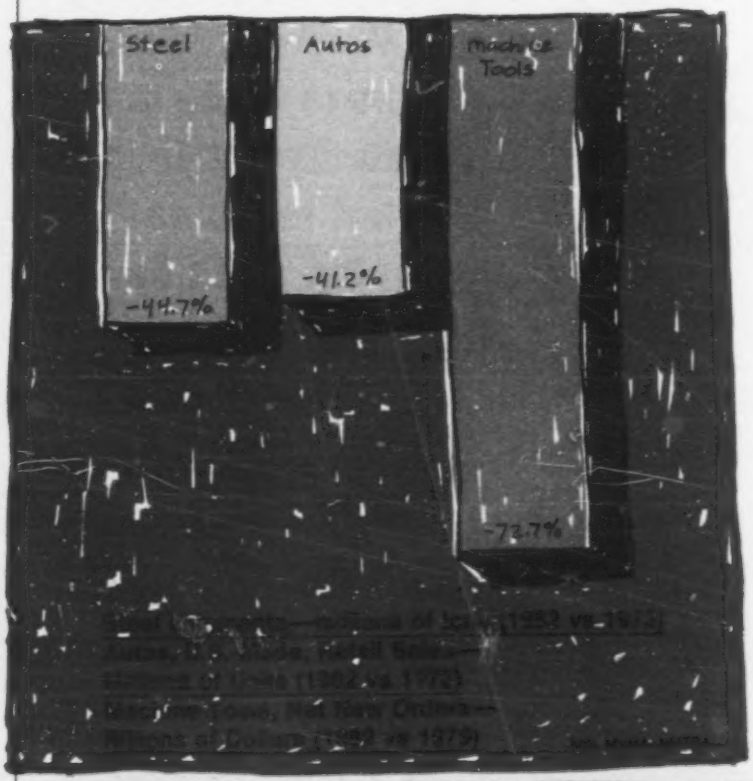
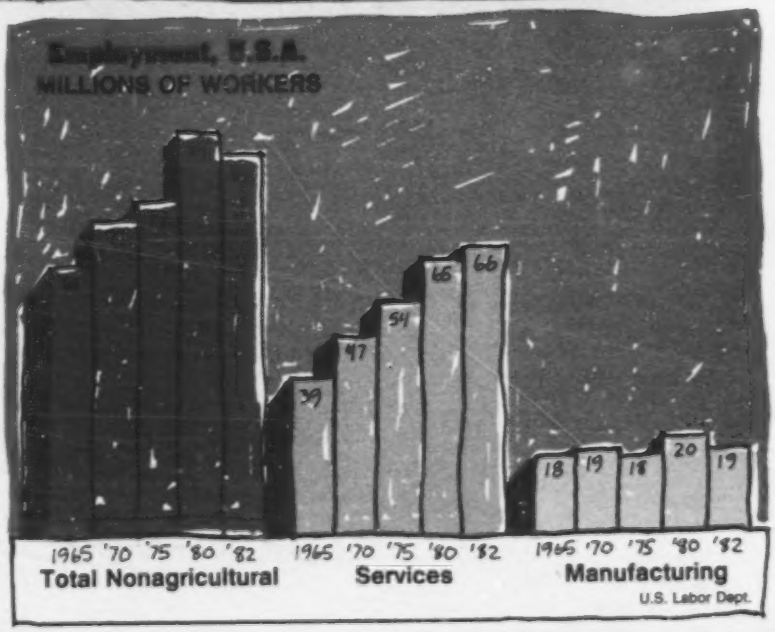
Key basic industries under siege





pendent on the rest of the world. The days of 'Fortress America' are gone."

Even many business executives who have faced the import problem first hand, concur with this view. Says Raymond A. Hay, board chairman and CEO of LTV Corp., "We must reindustrialize in a global environment."

And Union Carbide Corp. president Warren Anderson talks of "the emergence of global interdependence to a heretofore unimagined degree."

The figures bear out this view. From 1970 through 1980, combined U.S. import/export trade more than doubled as a share of the U.S. economy (GNP). This share was 8.3 pct in 1970; 17.5 pct in 1980. And this was not due singularly to a rise in imports. Imports increased ten-fold, but still, exports increased seven-fold. This growth far outpaced growth of the overall U.S. economy which increased three-fold.

On imports, government action is needed. In world trade, U.S. companies often find themselves competing not with foreign companies but with foreign governments. This is one of many issues that must be addressed through international channels. It may be too late for walls, but not for bridges.

In all the talk about ailing Smokestack America, perhaps the most overlooked aspect is what it is doing to help itself.

It is doing a lot; it is on the move. It is taking on a new look as it fights the problems that threaten to topple its smokestacks.

In fact, it likely will be the self-help efforts of basic industries more than anything else that restores them to full health—with perhaps a wholly new profile.

Based on developing trends, the future look of basic industries in this country will likely be smaller scale, leaner, tougher and less distinguishable as smokestack industries at all.

For one, a number of basic industries, notably steel, have had in action for some time what might be called strategies of shrinkage. It is estimated that the steel industry in this country trimmed some 15 pct from its capacity through the time of the last two reces-

Business has become a victim of wild swings in the U.S. economy.

sions.

One steel producer leading in this approach is National Steel Corp. When all its planned restructuring is completed, National will have reduced its steelmaking capacity by nearly 50 pct. Notably, National, in the second quarter this year turned in its first profit on steel operations since the middle of 1981. One analyst says the profit showing was "partly a reflection of a steel structure that has had a drastic scaling down."

There is, of course, method in the madness of steel in its shrinkage strategy. It could be boiled down to the point: Smaller in size, stronger in earnings. And that means being more competitive and more able to renew itself through capital spending.

In labor costs, basic industries have been lately making great and widely-heralded progress. In steel and autos there has been a tone of concessions and givebacks. The effects of progress on the labor front are just now being realized. In steel, manhours needed to produce 1 ton have been cut from 9.6 in 1978 to 8.0 last year, according to one analyst.

Too, diversification has played, and continues to play, a leading role in steel's efforts to stabilize and strengthen itself. This gives a broader corporate base and greater resources to companies with steel operations.

Another point: Basic industries, in order to strengthen themselves, are embracing new technology at a greater rate than ever in the past. Steel companies, for example, are using lasers to check refractory line wear in furnaces. And, increasingly, microcomputers and microprocessors are being used in monitor and control production processes.

The drive for greater use of high technology in basic industries was noted recently by the consulting firm, Arthur D. Little, Inc. The firm forecasts a quadrupling in sales of computerized systems for automated factories to about $100 billion (in 1981 dollars) by 1992.

All this takes more than capital; it also requires courage. This was shown in capital expenditures of steel companies in recession-year 1982. They raised this spending by almost 25 pct over 1981 to $4.2 billion. Says one steel executive, "That shows more than anything the determination of this industry to strengthen itself."

Some of the industry gains that have come from recent capital outlays in steel have been nothing less than dramatic. New continuous annealing lines, for example, are designed to complete in ten minutes an annealing cycle that takes five to ten days with conventional equipment and methods.

The auto industry's push into high-tech has been well publicized. Some 30 pct of this decade's robots are expected to be working in auto plants. That other basic industry, machine tool building, is hard-pressed to upscale and automate its products to meet requirements of its customers—which are often other basic goods manufacturers.

Another strengthening effort by basic industries has been in the alliances of U.S. auto producers with foreign producers. As one Detroit executive puts it, "This builds strength through using the best of the world's capabilities."

These alliances extend to the basic industry of aircraft manufacturing. Boeing and Mitsubishi Heavy Industries of Japan are just one of these alliances.

Not only are basic industries stepping up their modernizing and restructuring on an individual company basis, but they are also joining in formation of increasingly powerful coalitions. Right or wrong, political clout is a necessity in industry-strengthening efforts. Coalitions help form economic policy in this country. They help remove government regulatory blocks from standing in the way of self-help efforts by industries.

There is a Basic Industries Coalition. The smokestack company members

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range from Ford Motor Co. to Scott Paper Co.

There is a Coalition for International Trade Equity that includes basic industry companies such as Cincinnati Milacron and Westinghouse.

There is a Trade Reform Action Coalition that is made up heavily with basic industry companies in metals producing, metalworking, chemicals and textiles.

There is a Metalworking Fair Trade Coalition.

The list could go on. Most coalitions are targeted on the fair trade issue. But they also plump for other issues affecting basic industries.

Some of these 'rainbow' efforts are leading to pots of gold. One example seems clearly to be the formation of an advisory committee formed last month by President Reagan to come up with recommendations to revitalize the American steel industry.

And very importantly, coalitions have done much to 'educate' government antitrustors in the need for some new ground rules in that area. A case in point: The Justice Dept.'s Antitrust Division head, William F. Baxter, is now emphasizing the importance of antitrust law "for improving international competitiveness."

That's a radical departure from the old antitrust position of hard-lining against bigness and concentrating solely on competitive effects in domestic business.

This new attitude may lead to a wave of rationalized investment in basic industries. The permitting of combinations of corporations in an industry, or cooperation of several companies in one industry, might eventually do more to strengthen U.S. basic industries than any other single factor, say a number of economists.

So, Smokestack America lately has made real progress. And if government 'intervention' in their cause is confined to pushing, and not blocking, then there is promise for much greater progress.□

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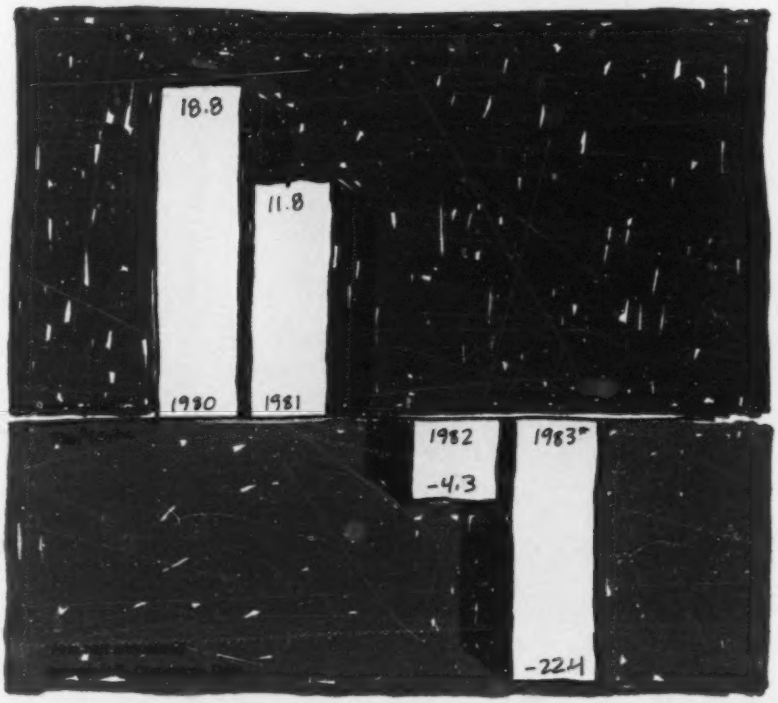
The long-time U.S. trade weakness finally catches up with traditionally strong manufacturing trade



U.S. Shares of World Exports, %

	1970	1980
Total U.S. Exports	13.7%	10.8%
Iron & Steel	9.2	5.0
Machine Tools	18.1	11.7
Aircraft	67.3	53.0
Electrical Machinery	18.7	10.1
Office Machines & Computers	38.4	28.4
Semiconductors	39.5	22.7

METALWORKING ORDER TRENDS

Orders bounce a lot, but still hold to recovery path

July was a disappointing month for orders, mainly because June was such a big month for orders.

Orders received by durable goods manufacturers fell by 3.5 pct in July to $87.7 billion. This month-to-month decline followed a whopping near-8 pct rise in June to $90.9 billion.

The wild ride through the economic rapids of a recovery period was seen even more clearly in July orders received by the capital goods sector of durables manufacturing.

Orders for capital goods rose 5 pct between May and June. But in July, these orders were down 11 pct from June—to $21.6 billion.

A broader look than a 30-day glimpse is needed these days to get a handle on the orders trend.

Orders through the first seven months of the year were up 6.6 pct. Another view: July orders were up 13 pct from the year's low point of $77.4 billion in February.

Those measures point to modest recovery strength in orders, a recovery that started in November of last year.

Increases in orders in July were racked up by the primary metals and electrical machinery industries.

Machinery builders posted a 7.6 pct gain during the month to $14.5 billion. Here, the strength was in the electronic components category.

The July orders increase for primary metals was mostly in the steel industry. Its orders were up 7.1 pct to $4.2 billion.

The big dipper in July was the transportation equipment industry. Orders were down 13.1 pct to $20.4 billion. This followed a 28 pct increase in June. The volatile aircraft and parts industry accounted for most of the July orders decline in transportation equipment.

Inventories continued to shrink in durable goods lines in July. This is a good sign for the near future; the shrinkage in stockpiles points to near-at-hand stock replenishment orders.

The inventory/orders ratio for durable goods manufacturers in July was 20 pct lower than in the year-ago month. The July ratio was 1.93. Normally, in a recovering economy, any ratio below 2.0 indicates a near-term spending binge to rebuild inventories.

Traditionally, stock rebuilding is good news. But there's a catch now. Commerce Secretary Malcolm Baldrige has warned that stock rebuilding at this time "could put upward pressure on interest rates if government borrowing isn't reduced quickly."

Source: U.S. Dept. of Commerce Billions of dollars, seasonally adjusted monthly total, unless otherwise noted		Latest Month or Qtr.	Previous Month or Qtr.	Same Period Year Ago
Capital Expenditures (Annual Rates)				
U.S. Industry, Total	2nd Qtr.	$302.2*	$302.3	$323.2
Manufacturing, Total	2nd Qtr.	111.3*	112.8	123.8
Manufacturing, Durable Goods	2nd Qtr.	50.9*	52.8	59.0
Mining Industry	2nd Qtr.	14.6	14.6	16.6
Key Indicators, Durable Goods Manufacturing				
New Orders	July	87.7	90.9	75.6
Shipments	July	85.6	86.6	76.9
Inventories	July	169.7	169.8	182.0
Unfilled Orders	July	307.5	305.4	301.1
New Orders, Metalworking				
Capital Goods Producers, Nondefense Industries	July	21.6	24.3	19.9
Capital Goods Producers, Defense Industries	July	6.7	7.9	5.2
Primary Metals, Total	July	10.3	10.1	8.7
Steel (SIC 331)	July	4.2	3.9	3.9
Iron & Steel Castings (SIC 332)	July	1.0	1.1	1.3
Nonferrous Metals	July	5.1	5.1	3.5
Nonelectrical Mach.-Equip. Industries, Total	July	14.8	15.5	12.9
Engines & Turbines	July	0.9	0.8	0.9
Farm Machinery & Equipment (Shipments)	July	0.9	0.9	0.9
Construction, Mining & Materials Hdlg. Equip.	July	2.5	2.5	2.5
General Industrial Machinery	July	1.2	1.1	1.1
Fluid Power Equipment** (Index-1972=100)	July	223	249	153
Metalworking Machinery	July	0.7	0.6	0.6
Machine Tools, Total (Millions $, unadjusted)***	July	173.4	145.3	106.6
Machine Tools, Metal-Cutting***	July	127.0	96.5	70.4
Machine Tools, Metal-Forming***	July	46.4	48.8	36.2
Electrical Mach. & Equip. Industries, Total	July	14.5	13.4	12.5
Elec. Transmission Equip. & Industrial Apparatus	July	1.7	1.9	1.7
Household Appliances	July	1.3	1.2	1.0
Communication Equipment	July	4.2	4.6	4.3
Transportation Equip. Industrial, Total	July	20.4	23.4	17.2
Motor Vehicles & Parts (Shipments)	July	12.4	12.8	10.7
Aircraft, Missiles & Parts	July	5.2	8.5	4.9
Shipbuilding & Military Tanks	July	1.7	1.2	0.9
Fabricated Metal Products, Total	July	9.9	10.1	9.1
Instruments, Total	July	4.5	4.3	4.0

*Est.—Commerce Dept.; **Source: National Fluid Power Assn.; ***Source: NMTBA.

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MATERIALS NEWSFRONT

Price & Production Data

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	175	174	159	123
Buffalo	30	28	31	27
Pittsburgh	184	199	204	125
Youngstown	94	98	90	62
Cleveland	141	135	128	106
Detroit	97	114	141	117
Chicago	472	468	453	358
Cincinnati	97	95	83	76
St. Louis	64	78	74	38
Southern	136	138	139	74
Western	93	87	88	67
U.S. Production	1,583	1,614	1,590	1,173

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)..... gross-ton 80.50-86.9*
Old range, non-bessemer ..... gross-ton $32.78
Mesabi, regular-unscreened ..... gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $32.25-32.53**

*80.50¢—Pickands Mather as of 1/27/81.
**86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.

Steel Production, Composite Prices

(Effective September 12, 1983)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1983	To Date 1982
Net tons, in thousands	1,583	1,614	56,339	53,765
Capability Utilization Rate	55.0	56.1	53.9	50.4

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 9/1/83)	26.822	26.217	26.217	25.297
Pig Iron* * (Net ton=2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.* * * (Gross ton=2240 lbs.)	$ 77.17	$ 76.83	$ 75.17	$ 56.50
No. 2 bundles	$ 45.50	$ 45.50	$ 45.50	$ 41.83
Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh .	$ 82.50	$ 82.50	$ 79.50	$ 57.50
No. 1 steel, Philadelphia	69.50	68.50	68.50	59.50
No. 1 steel, Chicago.....	79.50	79.50	77.50	52.50
No. 1 bundles, Detroit..	75.50	75.50	71.50	51.50
Low Phos., Youngstown	84.50	84.50	79.50	63.50
No. 1 mach'y cast., Pgh	74.50	74.50	74.50	71.50
No. 1 mach'y cast., Phila	95.50	95.50	95.50	100.50
No. 1 mach'y cast., Chi..	109.50	109.50	108.50	105.50

*Finished Steel Composite
Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite
Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite
Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

Nonferrous Prices

(Effective September 12, 1983)
Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	76.00-81.00 (Nom.)	76.00	8/29/83
Copper (C)	76.00	75.50-76.00	9/2/83
Lead	20.00-21.50	20.00-21.50	8/31/83
Magnesium Ingot	138.00	134.00-138.00	6/1/83
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	46.00	43.00-46.00	8/30/83

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig. delivered. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas . $2.00
Beryllium-aluminum 5% Be, per lb. contained Be $215.00
Beryllium-copper, per lb. cont. Be $130.00
Beryllium 97% powder 200 ..... $178.00
Bismuth, ton lots ..... $1.65-$1.75
Cadmium, ton lots $1.25
Calcium, ton lots, crown $3.05
Chromium, 99.8% $3.75
Cobalt, 99%, cathode $12.50
Gold per troy oz. $415.75
Indium, dollars per troy oz. ..... $3.20-$3.50
Iridium, dollars per troy oz. $600
Magnesium sticks, 10,000 lbs. $1.91
Mercury, per 76-lb. f.o.b. N.Y. .. $285-$299
Molybdenum, lb. tech. moly oxides, 20.lb. MO can $5.85
Nickel oxide sinter at U.S. points of entry $3.12
Palladium, per troy oz. $140
Platinum, per troy oz. $475
Rhodium, per troy oz. $600.00
Silver ingots, per troy oz. $12.23
Vanadium $4.94
Zirconium sponge ..... $12.00-$17.00
(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Sept. 5—Holiday
Sept. 6—585.72
Sept. 7—585.88
Sept. 8—587.04
Sept. 9—588.83

Scrap Prices

Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	72⅜	66½
Yellow brass	63¼	60
Red brass	67¾	62¾
Comm. bronze	69¼	64
Mang. bronze	64⅛	61¾
Free cutting rod ends	59	58

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	69
No. 2 copper wire	60
Light copper	51

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	65
No. 2 copper wire	56
Light copper	47
No. 1 composition	56
No. 1 comp. turnings	54
Hvy. yellow brass solids	36
Hvy. yellow brass turnings	29
Radiators	46

Aluminum

New mixed clips	51	—52
Old sheet	49	—50
Old cast	49	—50
Clean dry borings	48	—49

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	41	—42
Mixed L.C. clips	35	—36
Old sheets and cast	33	—34
Borings and turnings	24	—25
Duraluminum clippings	29	—30

Copper and Brass

No. 1 copper wire	59	—60
No. 2 copper wire	52	—53
Light copper	46	—47
Radiators	37	—38
No. 1 composition	48	—49
No. 1 composition turn'gs	45	—46
Cocks and faucets	32	—33
Clean heavy yellow brass	30	—31
Brass Pipe	32	—33
New soft brass clippings	46	—47

Lead

Heavy soft lead	8	— 9
Whole batteries	3	— 4
Type metal	15	—16
Electrotype	13	—14

Nickel

Nickel solids	110	—120
Nickel rod ends	110	—120
Nickel sheets, clips	110	—120
Nickel turnings	50	— 60

Zinc

New zinc clippings	15	—16
Old diecast zinc	9	—10

EFFECTIVE SEPTEMBER 12, 1983

MATERIALS NEWSFRONT

(Effective September 12, 1983) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 82.00	to	$ 83.00
No. 2 hvy. melting	72.00	to	73.00
No. 1 dealer bundles	99.00	to	100.00
No. 1 factory bundles (auto)	97.00	to	98.00
No. 2 bundles	51.00	to	52.00
No. 1 busheling	94.00	to	95.00
Machine shop turn.	7.00	to	8.00
Shoveling turnings	26.00	to	27.00
Cast iron borings	25.00	to	26.00
Low phos. punchings plate	99.00	to	100.00
Heavy turnings	72.00	to	73.00
No. 1 RR hvy. melting	90.00	to	91.00
Rails 2 ft. and under	103.00	to	104.00
Scrap rails, random lgth.	91.00	to	92.00
RR specialties	98.00	to	99.00
No. 1 machinery cast	74.00	to	75.00
Cupola cast	67.00	to	68.00
Heavy breakable cast	30.00	to	31.00
Stainless			
18-8 bundles and solids	600.00	to	610.00
18-8 turnings	500.00	to	510.00

Chicago

No. 1 hvy. melting	$ 79.00	to	$ 80.00
No. 2 hvy. melting	72.00	to	73.00
No. 1 dealer bundles	99.00	to	100.00
No. 1 factory bundles (auto)	99.00	to	100.00
No. 2 dealer bundles	44.00	to	45.00
No. 1 busheling	97.00	to	98.00
Shredder scrap	84.00	to	85.00
Machine shop turn.	25.00	to	26.00
Mixed bor. and turn.	25.00	to	26.00
Shoveling turnings	31.00	to	32.00
Cast iron borings	44.00	to	45.00
Low phos. forge crop	99.00	to	100.00
Low phos. punchings plate ¼ in. and heavier	109.00	to	110.00
Low phos. 2 ft. and under	105.00	to	106.00
No. 1 RR hvy. melting	94.00	to	95.00
Scrap rails, random lgth.	81.00	to	82.00
Reroller rails	95.00	to	96.00
Rails, 2 ft. and under	102.00	to	103.00
RR couplers and knuckles	87.00	to	88.00
RR car axles	114.00	to	115.00
No. 1 machinery cast	109.00	to	110.00
Cupola cast	97.00	to	98.00
Stove plate	92.00	to	93.00
Steel car wheels	96.00	to	97.00
Stainless			
18-8 bundles and solids	570.00	to	580.00
18-8 turnings	470.00	to	480.00
430 bundles and solids	135.00	to	140.00
430 turnings	100.00	to	105.00

Philadelphia

No. 1 hvy. melting	$ 68.00	to	$ 71.00
No. 2 hvy. melting	55.00	to	58.00
No. 1 dealer bundles	80.00	to	83.00
No. 2 dealer bundles	39.00	to	42.00
No. 1 busheling	80.00	to	83.00
Shredder scrap	82.00	to	85.00
Machine shop turn.	23.00	to	26.00
Mixed bor. and turn.	23.00	to	26.00
Shoveling turnings	41.00	to	44.00
Low phos. 5 ft. and under	79.00	to	82.00
Low phos. 2 ft. punchings	92.00	to	95.00
Electric furnace bundles	93.00	to	96.00
RR specialties	81.00	to	84.00
Rails, 2 ft. and under	92.00	to	95.00
Cupola cast	60.00	to	63.00
Heavy breakable cast	53.00	to	56.00
No. 1 machinery cast	94.00	to	97.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 59.00	to	$ 60.00
No. 2 hvy. melting	57.00	to	58.00
No. 1 dealer bundles	75.00	to	76.00
No. 2 bundles	37.00	to	38.00
No. 1 busheling	73.00	to	74.00
Drop forge flashings	49.00	to	50.00
Machine shop turn.	30.00	to	31.00
Mixed borings and turn.	19.00	to	20.00
Shoveling turnings	30.00	to	31.00
Cast iron borings	27.00	to	28.00
Heavy breakable cast	35.00	to	36.00
Mixed cupola cast	51.00	to	52.00
Automobile cast	74.00	to	75.00
Stainless			
18-8 bundles and solids	470.00	to	480.00
18-8 turnings	350.00	to	360.00
430 bundles and solids	115.00	to	125.00

Youngstown

No. 1 hvy. melting	$ 71.00	to	$ 74.00
No. 2 hvy. melting	49.00	to	52.00
No. 1 dealer bundles	87.00	to	90.00
No. 2 dealer bundles	37.00	to	40.00
Machine shop turn.	3.00	to	5.00
Shoveling turnings	7.00	to	10.00
Low phos. plate	83.00	to	86.00
Electric furnace bundles	78.00	to	81.00
Galvanized bundles	70.00	to	73.00

Cleveland

No. 1 hvy. melting	$ 67.00	to	$ 70.00
No. 2 hvy. melting	32.00	to	35.00
No. 1 dealer bundles	85.00	to	88.00
No. 1 factory bundles	92.00	to	93.00
No. 2 bundles	22.00	to	25.00
No. 1 busheling	84.00	to	87.00
Machine shop turn.	1.00	to	4.00
Mixed bor. and turn.	1.00	to	4.00
Shoveling turnings	3.00	to	6.00
Cast iron borings	6.00	to	9.00
Cut structural & plates, 2 ft. and under	99.00	to	102.00
Low phos. punchings plate	99.00	to	102.00
Drop forge flashings	37.00	to	40.00
Foundry steel, 2 ft. & under	57.00	to	60.00
No. 1 RR hvy melting	77.00	to	80.00
Rails, 2 ft. and under	105.00	to	108.00
Rails, 18 in. and under	106.00	to	109.00
Steel axle turnings	67.00	to	70.00
Railroad cast	80.00	to	83.00
No. 1 machinery cast	87.00	to	90.00
Cupola cast	60.00	to	63.00
Stove plate	45.00	to	48.00
Stainless			
18-8 bundles	325.00	to	335.00
18-8 turnings	275.00	to	285.00
430 bundles	80.00	to	85.00

Buffalo

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 58.00	to	$ 59.00
No. 2 hvy. melting	47.00	to	48.00
No. 1 busheling	71.00	to	72.00
No. 1 dealer bundles	71.00	to	72.00
No. 2 bundles	30.00	to	31.00
Machine shop turn.	12.00	to	13.00
Mixed bor. and turn.	13.00	to	14.00
Shoveling turnings	17.00	to	18.00
Cast iron borings	12.00	to	13.00
Low phos. plate	71.00	to	72.00
Structural and plate, 2 ft. and under	70.00	to	71.00
Rails, 2 ft. and under	82.00	to	83.00
Scrap rails, random lgth.	65.00	to	66.00
No. 1 machinery cast	67.00	to	68.00
No. 1 cupola cast	48.00	to	49.00

St. Louis

No. 1 hvy. melting	$ 69.00	to	$ 70.00
No. 2 hvy. melting	58.00	to	59.00
Foundry steel, 2 ft.	57.00	to	58.00
No. 1 dealer bundles	69.00	to	70.00
No. 2 bundles	55.00	to	56.00
Machine shop turn.	17.00	to	18.00
Shoveling turnings	24.00	to	25.00
Cast iron borings	35.00	to	36.00
No. 1 RR hvy. melting	79.00	to	80.00
Rails, random length	76.00	to	77.00
Rails, 18 in. and under	92.00	to	93.00
RR specialties	85.00	to	86.00
Cupola cast	70.00	to	71.00
Heavy breakable cast	48.00	to	49.00
Stove plate	75.00	to	76.00
Cast iron car wheels	49.00	to	50.00
Rerolling rails	97.00	to	98.00
Unstripped motor blocks	57.00	to	58.00

Birmingham

No. 1 heavy melting	$ 70.00	to	$ 71.00
No. 2 heavy melting	64.00	to	65.00
No. 1 dealer bundles	71.00	to	72.00
No. 2 bundles	50.00	to	51.00
No. 1 busheling	71.00	to	72.00
Shredder scrap	87.00	to	88.00
Machine shop. turn.	24.00	to	25.00
Shoveling turnings	32.00	to	33.00
Cast iron borings	33.00	to	34.00
Electric furnace bundles	67.00	to	68.00
Elec. furnace, 3 ft. & under	64.00	to	65.00
Structural and plate, 2 ft.	94.00	to	95.00
Structural and plate, 4 ft.	90.00	to	91.00
No. 1 RR hvy. melting	71.00	to	72.00
Scrap rails, random lgth.	81.00	to	82.00
Rails, 18 in. and under	94.00	to	95.00
Angles and splice bars	88.00	to	89.00
No. 1 cupola cast	84.00	to	85.00
Unstripped motor blocks	64.00	to	65.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 62.00	to	$ 63.00
No. 2 hvy. melting	57.00	to	58.00
No. 1 dealer bundles	71.00	to	72.00
No. 2 bundles	30.00	to	31.00
Machine shop turn.	7.00	to	8.00
Shoveling turnings	10.00	to	11.00
Cast iron borings	14.00	to	15.00
Low phos. 18 in. and under	87.00	to	88.00
Rails, random length	70.00	to	71.00
Rails, 2 ft. and under	88.00	to	89.00
No. 1 cupola cast	67.00	to	68.00
Heavy breakable cast	34.00	to	35.00
Drop broken cast	80.00	to	81.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 34.00	to	$ 35.00
No. 2 hvy. melting	30.00	to	32.00
No. 2 dealer bundles	22.00	to	23.00
Mixed bor. and turn.	7.00	to	8.00
Machine shop turn.	4.00	to	5.00
Shoveling turnings	10.00	to	12.00
Clean cast. chem. borings	34.00	to	35.00
No. 1 machinery cast	89.00	to	90.00
Mixed yard cast	38.00	to	39.00
Heavy breakable cast	14.00	to	15.00
Stainless			
18-8 prepared solids	490.00	to	510.00
18-8 turnings	390.00	to	410.00
430 prepared solids	70.00	to	80.00
410 solids	60.00	to	70.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 45.00	to	$ 47.00
No. 2 hvy. melting	35.00	to	37.00
No. 1 dealer bundles	57.00	to	59.00
No. 2 bundles	31.00	to	33.00
No. 1 busheling	57.00	to	59.00
Shredder scrap	57.00	to	59.00
Machine shop turn.	5.00	to	7.00
Shoveling turnings	9.00	to	11.00
No. 1 machinery cast	95.00	to	100.00
Mixed cupola cast	30.00	to	32.00
Heavy breakable cast	8.00	to	10.00

San Francisco

No. 1 hvy. melting	$ 42.00	to	$ 44.00
No. 2 hvy. melting	34.00	to	36.00
No. 1 dealer bundles	29.00	to	31.00
No. 2 dealer bundles	13.00	to	15.00
Machine shop turn.	6.00	to	8.00
Cast iron borings	6.00	to	8.00
No. 1 cupola cast	85.00	to	87.00

Los Angeles

No. 1 hvy. melting	$ 40.00	to	$ 42.00
No. 2 hvy. melting	29.00	to	31.00
No. 1 dealer bundles	27.00	to	29.00
No. 2 dealer bundles	10.00	to	12.00
Machine shop turn.	6.00	to	8.00
Shoveling turnings	10.00	to	12.00
Cast iron borings	6.00	to	8.00
Elec. furnace, 1 ft. and under (foundry)	85.00	to	87.00
No. 1 cupola cast	87.00	to	89.00

Seattle

No. 1 hvy. melting	$ 59.00	to	$ 61.00
No. 2 hvy. melting	48.00	to	50.00
No. 2 bundles	38.00	to	40.00
No. 1 cupola cast	94.00	to	96.00
Mixed yard cast	81.00	to	83.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 60.00
No. 2 heavy melting cut 2 ft. and under	57.00
No. 1 dealer bundles	65.00
No. 2 bundles	35.00
Mixed steel scrap	39.00
Bush. new fact. prep'd.	63.00
Bush. new fact. unprp'd.	55.00
Machine shop turn.	30.00
Short steel turn.	33.00
Mixed bor. and turn.	20.00
Cast scrap	53.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 76.00	to	$ 77.00
No. 2 hvy. melting	58.00	to	60.00
No. 2 bundles	37.00	to	38.00
Machine shop turn.	21.00	to	22.00
Crushed turnings	39.00	to	41.00
Shredder scrap	76.00	to	77.00
Cut structural plate 2 ft. and under	91.00	to	94.00
Unstripped motor blocks	57.00	to	59.00
Cupola cast	78.00	to	80.00